

What is claimed is:

1. A method of processing a primitive for potential display on a display device having a plurality of pixels, the method comprising:
  - 5 determining if the primitive intersects at least a predetermined number of pixel fragments on the display device, the predetermined number being no less than one; and
  - culling the primitive as a function of whether the primitive intersects at least the predetermined number of pixel fragments on the display device, the primitive not being raster processed if culled.
- 10 2. The method as defined by claim 1 wherein a graphics processor has a raster stage capable of raster processing the primitive, the graphics processor also having a geometry stage capable of forwarding primitive attribute data to the raster stage for raster processing, determining comprising determining if the primitive intersects at least the predetermined number of pixel fragments on the display device before forwarding primitive attribute data from the geometry stage to the raster stage.
- 15 3. The method as defined by claim 1 wherein a graphics processor has a raster stage capable of raster processing the primitive, the graphics processor also having a geometry stage capable of forwarding primitive attribute data to the raster stage for raster processing, determining comprising the raster stage determining if the primitive intersects at least the predetermined number of pixel fragments on the display device.
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4. The method as defined by claim 1 wherein the primitive is not culled if the primitive is determined to intersect at least the predetermined number of pixel fragments on the display device.
- 5 5. The method as defined by claim 1 wherein the primitive is culled if the primitive is determined to not intersect at least the predetermined number of pixel fragments on the display device.
6. The method as defined by claim 1 wherein determining comprises:  
10 forming a bounding box based upon positional data of the primitive.
7. The method as defined by claim 6 further wherein the primitive has an associated equation defining its position on the display device, the method further comprising:  
15 determining if the bounding box bounds more than a prespecified number of pixel fragments; and  
if the bounding box does not bound more than the prespecified number of pixel fragments, then using the equation to determine if the primitive intersects at least the predetermined number of pixel fragments.  
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8. The method as defined by claim 6 wherein the primitive is culled if the bounding box bounds no pixel fragments.
9. An apparatus for processing a primitive for potential display on a display  
25 device having a plurality of pixels, the apparatus comprising:  
a geometry stage capable performing geometry operations on the primitive, the geometry stage also being capable of determining if the primitive intersects at least a predetermined number of pixel fragments on the display

device, the geometry stage being configured to cull the primitive as a function of whether the primitive intersects at least the predetermined number of pixel fragments on the display device, the predetermined number being no less than one; and

5           a raster stage operatively coupled with the geometry stage, the raster stage being capable of raster processing the primitive if the geometry stage does not cull the primitive.

10           10.    The apparatus as defined by claim 9 wherein the primitive has associated attribute data, the geometry stage having an output for forwarding the attribute data to the raster stage if the primitive intersects at least the predetermined number of pixel fragments on the display device.

15           11.    The apparatus as defined by claim 9 wherein the primitive has associated attribute data, further wherein the geometry stage is configured to not forward the attribute data to the raster stage if the primitive is determined to not intersect at least the predetermined number of pixel fragments on the display device.

20           12.    The apparatus as defined by claim 9 wherein the geometry stage comprises:

            a bounding box module capable of forming a bounding box based upon positional data of the primitive.

25           13.    The apparatus as defined by claim 12 further wherein the primitive has an associated equation defining its position on the display device, the geometry stage using the equation to determine whether the primitive intersects at least one pixel fragment if the bounding box bounds fewer than a prespecified number of pixel fragments.

14. The apparatus as defined by claim 12 wherein the primitive has associated attribute data, further wherein the geometry stage does not forward the attribute data to the raster stage if no pixel fragments are bounded by the bounding box.

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15. A computer program product for use on a computer system for processing a primitive for potential display on a display device having a plurality of pixels, the computer program product comprising a computer usable medium having computer readable program code thereon, the computer readable program code comprising:

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program code for determining if the primitive intersects at least a predetermined number of pixel fragments on the display device, the predetermined number being no less than one; and

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program code for culling the primitive as a function of whether the primitive intersects at least the predetermined number of pixel fragments on the display device, the primitive not being raster processed if culled.

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16. The computer program product as defined by claim 15 wherein the primitive is not culled if the primitive is determined to intersect at least the predetermined number of pixel fragments on the display device.

17. The computer program product as defined by claim 15 wherein the primitive is culled if the primitive is determined to not intersect at least the predetermined number of pixel fragments on the display device.

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18. The computer program product as defined by claim 15 wherein the program code for determining comprises:

program code for forming a bounding box based upon positional data of the primitive.

19. The computer program product as defined by claim 18 further wherein  
5 the primitive has an associated equation defining its position on the display device, the computer program product further comprising:

program code for determining if the bounding box bounds more than a prespecified number of pixel fragments; and

- 10 program code for using the equation to determine whether the primitive intersects at least the predetermined number of pixel fragments, the program code for using being executed if the bounding box does not bound more than the prespecified number of pixel fragments.

20. The computer program product as defined by claim 18 wherein the  
15 primitive is culled if no pixel fragments are bounded by the bounding box.